

flexible intermediate bulk containers. This does not preclude the re-use of component parts such as fittings and pallet bases, provided such components have not in any way been damaged in previous use.

(7) When flexible intermediate bulk containers are filled, the ratio of height to width may not be more than 2:1.

[Amdt. 178–103, 59 FR 38068, July 26, 1994, as amended by Amdt. 178–108, 60 FR 40038, Aug. 4, 1995]

Subpart O—Testing of Intermediate Bulk Containers

SOURCE: Amdt. 178–103, 59 FR 38074, July 26, 1994, unless otherwise noted.

§ 178.800 Purpose and scope.

This subpart prescribes certain testing requirements for intermediate bulk containers identified in subpart N of this part.

§ 178.801 General requirements.

(a) *General.* The test procedures prescribed in this subpart are intended to ensure that intermediate bulk containers containing hazardous materials can withstand normal conditions of transportation and are considered minimum requirements. Each packaging must be manufactured and assembled so as to be capable of successfully passing the prescribed tests and of conforming to the requirements of § 173.24 of this subchapter at all times while in transportation.

(b) *Responsibility.* It is the responsibility of the intermediate bulk container manufacturer to assure that each intermediate bulk container is capable of passing the prescribed tests. To the extent that an intermediate bulk container assembly function, including final closure, is performed by the person who offers a hazardous material for transportation, that person is responsible for performing the function in accordance with §§ 173.22 and 178.2 of this subchapter.

(c) *Definitions.* For the purpose of this subpart:

(1) *Intermediate bulk container design type* refers to intermediate bulk container which does not differ in struc-

tural design, size, material of construction, wall thickness, manner of construction and representative service equipment.

(2) *Design qualification testing* is the performance of the drop, leakproofness, hydrostatic pressure, stacking, bottom-lift or top-lift, tear, topple, righting and vibration tests, as applicable, prescribed in this subpart, for each different intermediate bulk container design type, at the start of production of that packaging.

(3) *Periodic design requalification test* is the performance of the applicable tests specified in paragraph (c)(2) of this section on an intermediate bulk container design type, in order to requalify the design for continued production at the frequency specified in paragraph (e) of this section.

(4) *Production inspection* is the inspection that must initially be conducted on each newly manufactured intermediate bulk container.

(5) *Production testing* is the performance of the leakproofness test in accordance with paragraph (f) of this section on each intermediate bulk container intended to contain solids discharged by pressure or intended to contain liquids.

(6) *Periodic retest and inspection* is performance of the applicable test and inspections on each intermediate bulk container at the frequency specified in § 180.352 of this subchapter.

(7) *Different intermediate bulk container design type* is one that differs from a previously qualified intermediate bulk container design type in structural design, size, material of construction, wall thickness, or manner of construction, but does not include:

(i) A packaging which differs in surface treatment;

(ii) A rigid plastic intermediate bulk container or composite intermediate bulk container which differs with regard to additives used to comply with §§ 178.706(c), 178.707(c) or 178.710(c);

(iii) A packaging which differs only in its lesser external dimensions (i.e., height, width, length) provided materials of construction and material thicknesses or fabric weight remain the same;

(iv) A packaging which differs in service equipment.

(d) *Design qualification testing.* The packaging manufacturer shall achieve successful test results for the design qualification testing at the start of production of each new or different intermediate bulk container design type. The service equipment selected for this design qualification testing shall be representative of the type of service equipment that will be fitted to any finished intermediate bulk container body under the design. Application of the certification mark by the manufacturer shall constitute certification that the intermediate bulk container design type passed the prescribed tests in this subpart.

(e) *Periodic design requalification testing.* (1) Periodic design requalification must be conducted on each qualified intermediate bulk container design type if the manufacturer is to maintain authorization for continued production. The intermediate bulk container manufacturer shall achieve successful test results for the periodic design requalification at sufficient frequency to ensure each packaging produced by the manufacturer is capable of passing the design qualification tests. Design requalification tests must be conducted at least once every 12 months.

(2) Changes in the frequency of design requalification testing specified in paragraph (e)(1) of this section are authorized if approved by the Associate Administrator for Hazardous Materials Safety. These requests must be based on:

(i) Detailed quality assurance programs that assure that proposed decreases in test frequency maintain the integrity of originally tested intermediate bulk container design types; and

(ii) Demonstrations that each intermediate bulk container produced is capable of withstanding higher standards (e.g., increased drop height, hydrostatic pressure, wall thickness, fabric weight).

(f) *Production testing and inspection.* (1) Production testing consists of the leakproofness test prescribed in § 178.813 of this subpart and must be performed on each intermediate bulk container intended to contain solids discharged by pressure or intended to contain liquids. For this test:

(i) The intermediate bulk container need not have its closures fitted.

(ii) The inner receptacle of a composite intermediate bulk container may be tested without the outer intermediate bulk container body, provided the test results are not affected.

(2) Applicable inspection requirements in § 180.352 of this subchapter must be performed on each intermediate bulk container initially after production.

(g) *Test samples.* The intermediate bulk container manufacturer shall conduct the design qualification and periodic design requalification tests prescribed in this subpart using random samples of intermediate bulk containers, according to the appropriate test section.

(h) *Selective testing of intermediate bulk containers.* Variation of a tested intermediate bulk container design type is permitted without further testing, provided selective testing demonstrates an equivalent or greater level of safety than the design type tested and which has been approved by the Associate Administrator for Hazardous Materials Safety.

(i) *Approval of equivalent packagings.* An intermediate bulk container which differs from the standards in subpart N of this part, or which is tested using methods other than those specified in this subpart, may be used if approved by the Associate Administrator for Hazardous Materials Safety. Such intermediate bulk containers must be shown to be equally effective, and testing methods used must be equivalent.

(j) *Proof of compliance.* Notwithstanding the periodic design requalification testing intervals specified in paragraph (e) of this section, the Associate Administrator for Hazardous Materials Safety, or a designated representative, may at any time require demonstration of compliance by a manufacturer, through testing in accordance with this subpart, that packagings meet the requirements of this subpart. As required by the Associate Administrator for Hazardous Materials Safety, or a designated representative, the manufacturer shall either:

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(1) Conduct performance tests or have tests conducted by an independent testing facility, in accordance with this subpart; or

(2) Make a sample intermediate bulk container available to the Associate Administrator for Hazardous Materials Safety, or a designated representative, for testing in accordance with this subpart.

(k) *Coatings.* If an inner treatment or coating of an intermediate bulk container is required for safety reasons, the manufacturer shall design the intermediate bulk container so that the treatment or coating retains its protective properties even after withstanding the tests prescribed by this subpart.

(l) *Record retention.* (1) The person who certifies an intermediate bulk container design type shall keep records of design qualification tests for each intermediate bulk container design type and for each periodic design requalification as specified in this part. These records must be maintained at each location where the intermediate bulk container is manufactured and at each location where design qualification and periodic design requalification testing is performed. These records must be maintained for as long as intermediate bulk containers are manufactured in accordance with each qualified design type and for at least 2.5 years thereafter. These records must include the following information: name and address of test facility; name and address of the person certifying the intermediate bulk container; a unique test report identification; date of test report; manufacturer of the intermediate bulk container; description of the intermediate bulk container design type (e.g., dimensions, materials, closures, thickness, representative service equipment, etc.); maximum intermediate bulk container capacity; characteristics of test contents; test descriptions and results (including drop heights, hydrostatic pressures, tear propagation length, etc.). Each test report must be signed with the name of the person conducting the test, and

name of the person responsible for testing.

(2) The person who certifies each intermediate bulk container must make all records of design qualification tests and periodic design requalification tests available for inspection by a representative of the Department upon request.

[Amdt. 178–103, 59 FR 38074, July 26, 1994, as amended by Amdt. 178–108, 60 FR 40038, Aug. 4, 1995]

§ 178.802 Preparation of fiberboard intermediate bulk containers for testing.

(a) Fiberboard intermediate bulk containers and composite intermediate bulk containers with fiberboard outer packagings must be conditioned for at least 24 hours in an atmosphere maintained:

(1) At 50 percent \pm 2 percent relative humidity, and at a temperature of $23^{\circ} \pm 2^{\circ}\text{C}$ ($73^{\circ}\text{F} \pm 4^{\circ}\text{F}$); or

(2) At 65 percent \pm 2 percent relative humidity, and at a temperature of $20^{\circ} \pm 2^{\circ}\text{C}$ ($68^{\circ}\text{F} \pm 4^{\circ}\text{F}$), or $27^{\circ}\text{C} \pm 2^{\circ}\text{C}$ ($81^{\circ}\text{F} \pm 4^{\circ}\text{F}$).

(b) Average values for temperature and humidity must fall within the limits in paragraph (a) of this section. Short-term fluctuations and measurement limitations may cause individual measurements to vary by up to \pm 5 percent relative humidity without significant impairment of test reproducibility.

(c) For purposes of periodic design requalification only, fiberboard intermediate bulk containers or composite intermediate bulk containers with fiberboard outer packagings may be at ambient conditions.

§ 178.803 Testing and certification of intermediate bulk containers.

Tests required for the certification of each intermediate bulk container design type are specified in the following table. The letter X indicates that one intermediate bulk container (except where noted) of each design type must be subjected to the tests in the order presented: